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**The industrialization challenges of the LAC region in
achieving the Sustainable Development Goal 9 and an
Inclusive and Sustainable Industrial Development (ISID)**

English essay competition

Latin America and the Caribbean (LAC) Programme of UNIDO

Sebastian Luis Castañeda Alvarez

Lima, Peru

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INTRODUCTION

*“The Global Goals are who we, humanity, want to be.
Now that’s the plan, but can we get there? Can this
vision for a better world really be achieved?”*

– Michael Green.

I decided to take up the challenge of writing an essay about Sustainable Industrial Development because I really believe the LAC region has the potential to become a developed one. Economy in most countries has been growing in the last few years and the statistics about the quality of life show these countries are improving in many aspects, from basic things, such as health, to “modern” issues, like gender equality.

Evaluating the situation of the LAC region is not easy, because the 42 countries in it are very different from each other. Some of them are already becoming highly industrialised countries, while others are far from this reality.

As the phrase from Michael Green I quoted says, we have a clear idea of the Sustainable Development Goals, we know what we want and what we need. Now we have to find a way to actually achieve it. In order to do that, we need to know what we have in favour and, of course, which are the biggest challenges we’ll have to deal with to achieve it.

On this essay, I point out the main challenges to achieve Goal #9 and an Inclusive and Sustainable Industrial Development (ISID) with a special focus on “Safeguarding the environment”. Since these are challenges, and not problems, I also write some successful cases that prove that there might be a solution to these issues. And these are not only cases from the North America & Western Europe region, but from countries of LAC itself. This means that we can actually find a way to make our region more developed and sustainably industrialised, and the answer is right here, in the LAC countries.

I truly believe that with support from the UN, the governments, the people and moreover, the youth, we can achieve the SDGs by 2030. Not only in the LAC region, but worldwide.

THE INDUSTRIALIZATION CHALLENGES OF THE LAC REGION IN ACHIEVING THE SUSTAINABLE DEVELOPMENT GOAL 9 AND AN INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT (ISID)

DEVELOPMENT AND INDUSTRIALIZATION CHALLENGES

“At all levels of development; industry can be the primary driver in fighting poverty, ensuring food security and preventing social polarization.”

– UNIDO.

Data availability

Before investing, companies elaborate studies to see if financing a project is worth it. When it comes to countries, governments do the same. However, conducting studies for nationwide or region-wide projects take more than just a financial budget. Our “Return on Equity” is a complex mix of factors which include the number of people benefitted, the number of jobs created, the length of time the benefits will be seen, etc.

The first challenge we have to face in order to get a developed region is the lack of data we have nowadays. Even though technology and research are increasing, there is still need to carry on with research in some countries: the last UNESCO “Education 2030” Study couldn’t include updated information about Haiti, Jamaica and even Brazil, the biggest country in the region. (UNESCO Institute of Statistics, 2015)

Another challenge is the availability of information as a region: the UNIDO Statistics Unit shows indicators for LAC altogether only when they are related to GDP and MVA. Other institutions prefer to show their studies’ results in other ways: the IMF classifies the world as advanced or emerging economies; the UNDP segregates the countries in a scale from low to very high human development; and the UN itself has no formal definition of developing countries, but still classifies 159 countries as it. (Khokhar & Serajuddin, 2015) Creating a global classification (at least within UN organizations) of the countries would be extremely useful to evaluate the world correctly: “developing

countries” doesn’t mean all LAC and Africa, and “developed” don’t only include Europe and North America.

After all, the most effective way to track the development of the countries is with the numbers and data we obtain; and lacking these would also mean lacking a way to monitor the success of the SDGs.

Education

Education is the basis of every society’s development. We cannot expect to have an industrialized region if the people who live in it are not well-prepared. LAC faces two great challenges on this topic.

The first one is Basic Education Enrolment. In the last decade, the out-of-school number of children has increased from 2.9 to 4.1 million, despite the increasing amount of aid money received by the LAC countries. (UNESCO Institute of Statistics, 2015)

The second one is related to higher education: the number of teenagers studying technical careers is decreasing, while the ones at universities are increasing. Having better educated students seems beneficial, but this situation creates a problem: there’s not a match between what the market demands and what it offers when it comes to job positions. That’s why some companies, especially in the mining and industrial sectors, hire technical experts from other countries.

Government

Government is the institution in which we trust to decide the path on how we develop our countries. It makes the important decisions on social services such as health care, education, infrastructure, protection of individuals from crime and violence, investment in new technologies; and the implementation of regulations to protect the environment. (Sachs, 2014) Only government can guarantee us equal opportunities for everyone to develop.

The main problem in the LAC region is that the population doesn’t completely trust the government. In the past few decades, every country has experienced trouble related with lack of transparency, corruption, abuse of power, among others. In some, even ex-

presidents have been sued. One of them is Argentina, which has filed 2160 lawsuits for corruption and bribery only in its last two governments. (Clarín, 2016)

Actions in favour of transparency are being taken and they should be replicated region-wide. El Salvador has declared the fight against corruption will be one of their 2016 focus topics. (Urías, 2016) UNIDO should also encourage LAC countries to promote agreements with each other (which will open new markets for small companies and help to develop the region more equally) and also to communicate and promote them. For example, after the COP21, governments should promote the ideas settled in the Paris agreement among industrial companies. They should not only sign this, but also be the final responsible for its success.

Research

75% of the world's poor live in rural areas where productivity is low. (UNIDO, 2015) This means that if we want to develop, we need to increase productivity and encourage industrialization, which is nowadays strongly tied with technology and research. And there is prove of this:

Denmark and Finland are recognised as two of the most developed countries and have achieved this title in a truly sustainable way, economically and environmentally. They have found out ways to do it thanks to research: there are over 10 thousand researchers per million inhabitants, working in all research areas. LAC countries, however, are mostly still considered developing countries and by 2008, not even one of them had reached the number of 1000 researchers per million. (UNESCO, 2015)

This should not be an obstacle, but a challenge: Costa Rica is a successful case in the region. In just three years (2008 - 2011) they grew exponentially from 133 to 1300 researchers per million, and are now leading the region. Argentina follows with 1.2 thousand and the rest of the countries still have a lot of potential to go.

Innovation & People's Mindset

Innovation is not only about creating new inventions or having new ideas for everyday problems. It's also about changing the traditional mindset we have, being open to accept change and modernise our processes, in order to reach their optimization, then industrialization and, when it's possible, automation. Most people fear this, but

industrialization and automation are actually the most efficient ways to produce something sustainably, using fewer resources and producing less waste. It doesn't mean fewer jobs either: the same amount of people that now do handwork will be the ones controlling the machinery. This would be an incentive for the people of the LAC region to get higher levels of education, mostly in technical careers, so they can acquire the knowledge needed in the industry and therefore get better paid jobs. The old idea of "only men should work in production" will be beaten, since education chances are given equally to men and women. Finally, better quality products would improve the quality of life as well.

Being open to innovation will also have a positive impact on the environment, since most new inventions and findings have the aim to obtain a cleaner production, an efficient resource management (specially natural, non-renewable resources) and reductions in waste and pollution. (UNIDO, 2015)

Private Investment & Formalization

"In our world today, good governance cannot refer only to governments. Our well-being depends on the world's multinational powerful companies obeying the law, respecting the natural environment and helping the communities in which they operate" (Sachs, 2014) The main challenge in the LAC region, is to engage these companies and make them realise that sustainable development doesn't only benefit civilians, but also them and their business.

Other two important challenges would be encouraging entrepreneurship (a topic that will be mentioned later in this essay) and formalisation of industrial companies.

Formalization doesn't only mean that a company should figure on the public records, but that their processes should be sustainable and should follow rules for a good and fair development, not only laws. Working with local businesses instead of importing , a fair pay and good working conditions are a must, and should be a focus in LAC, where these are not always audited.

Support from UNIDO could help our region face this topic, with help from governments. For example, the projects UNIDO has been developing in Ecuador, Peru and Colombia should not only be about giving aid on environmental topics, but also on legal and financial: Artisan Gold Mining is an industry usually operating without government

approval, because of the high taxes. A beneficial agreement could be reached (e. g. lower tax rate if they open job opportunities for locals) with UN's help.

INFRASTRUCTURE CHALLENGES

*"Infrastructure is all about easy movement and connectivity.
When it works you barely notice it's there –
when it doesn't, life gets a lot tougher."*

– ONE Campaign.

Geography, Nature & Infrastructure

When it comes to tangible infrastructure, there are many challenges the LAC region faces, and nature is one of them. Like anywhere in the world, when an engineering project is planned, a previous study of the terrain, geography and other conditions needs to be done. However, the LAC region faces problems like clayey soils, steep slopes, seismic concerns and liquefaction failures, in a bigger magnitude than other regions. (Schwarz, 2015) What's more, being such a varied region, nationwide structures, like electricity towers, have to face high temperatures in the coasts, heights in the towns in the Andes, and high levels of humidity in the Amazon.

Earthquakes, floods, droughts, landslides, storms, among others, are also natural disasters that the LAC region has to overcome and keep in mind when planning new projects. Global warming and its consequences can be added to the list. According to the FAO, natural disasters have cost \$1.5 trillion dollars to the world - between 2003 and 2013 - and have affected 2 billion people. (Luxton, 2015) A great share are in Latin America (Haiti, Peru and Chile had the biggest earthquakes in this last decade) and this does not only mean an infrastructure challenge, but also affects agriculture, industrialization and the economy of the countries, making it harder to come back on track and continue with their development.

Migration, centralization and transportation

Centralization is probably one of the main difficulties to overcome in the region, because it works as a cycle. Poor people from small towns come to the capital searching opportunities, the capital grows and develops and the towns inside the country are left behind, causing a lower quality of life and this causes more migration and the cycle starts again. When a LAC country develops unequally, it makes the inequality situation in the whole region even worse, making it harder to reach a “shared prosperity.”

Since most cities were not built for such a grown population, the infrastructure cannot keep up with the progress. This is why cities like Lima, São Paulo and Mexico DF suffer from traffic every day. A city with traffic is a city with bad communication, and this affects productivity and development.

Having a better transportation system is the main challenge in these cities. The most effective solution would be improving public and alternative (e.g. cycling) transportation in order to encourage people to use them instead of cars. This will not only decrease traffic, but will make cities environmentally sustainable, since transport is currently responsible for nearly a quarter of global energy-related greenhouse gas emissions. (UN-DPI, 2015)

Good examples to take into account would be Bogotá and Santiago de Chile. The Colombian city has the largest cycling infrastructure in South America and Santiago plans to connect the entire capital with bikeways by 2025, reducing the number of car drivers. When it comes to public transportation, the system of Curitiba, Brazil could be replicated in the LAC countries: the government invested in favourable infrastructure and now 70% of the 2.2 million of inhabitants have become daily users of the bus system at affordable prices. (Goodman, et al., 2007)

Pollution & Lack of Awareness

After the COP21, environment has become a focus for our society. As UNIDO recognises, “we cannot deny that one side effect of industrialization is its considerable environmental footprint”. CO₂ levels are an effective way to measure it, and unfortunately, the LAC region has to face another challenge: most South American countries produce over 100 thousand kilotons per year, only from fossil fuel and cement production, the main resources for infrastructure development. (Myers, 2015)

The main challenge is finding a way to grow, environmental-sustainably, polluting less and our region has a lot of potential yet to be exploited: the recycling industry and alternative energy. While Russia makes 280 billion dollars a year (UNIDO, 2015) on recycling, LAC digits are still around zero. Finding private investors for this would not only benefit them or the GDP, but it will help the environment. Brazil is the only one in the region with a strong recycling culture and this is proven by the 1.2 billion obtained. About alternative energy, due to its geography, LAC has potential to grow on solar and wind energy. It is safe to say that in the near future, we could rely only on these, since Denmark, with less geographical advantage, generated 140% of its consumption needs last year, and even sold/exported energy. Again, encouraging investors would benefit the environment. (Armbrecht, 2015)

Finally, concerning waste management and pollution, what needs to be done is raise awareness among the population, especially the young ones. "Gallinazo Avisa" (translated "Black Vulture alerts") is a campaign developed by the Peruvian Ministry of Environment and financed by USAID. It's a campaign that tracks Black Vultures with GPS and cameras and shares what they see online: the garbage dumps around the city of Lima. Its objective, raising awareness, is succeeding because of the technology and social media interaction involved: in less than a month, it has reached 20 thousand likes on Facebook, and it daily receives alerts about other polluted points.

ON WHAT SHOULD WE FOCUS NOW?

It's the XXI century and things have been changing pretty fast since. Technology is now part of our everyday lives and industries are now developing in a more globalised market. A new group of people has become the most powerful asset for our society and our future and the UN has realised this. Having a UN Youth Envoy and encouraging young people to take part in conferences and participate in essay contents prove that the future is now in hands of a new generation:

MILLENNIALS

The youth potential

*"In the past, youth was a handicap to professional success.
Getting older meant more resources, more knowledge, more money.*

No more.

*Those who grew up in the tech age have way bigger ambitions —
perfectly suited to the dynamic, entrepreneurial and impatient digital
world they grew up in. If you want to change the world, being
under 30 is now an advantage."*

– Caroline Howard.

When writing this essay, all I could think was how Millennials are going to be the ones who will face these challenges, who will work to reach the SDGs, who will create the future of our world.

Trusting Millennials makes sense since they will be part of every institution involved in developing the LAC region:

Millennials will not only work, but will own the companies in the private sector: 90% of millennials think that entrepreneurship is a mindset, rather than simply the role of business ownership, and there's a lot of potential in LAC. (Kleinert, 2015) We understand that the real goal when having a business is self-reliance. Start-ups may need support at the beginning, but once it launches off, it's all growth.

Millennial civilians and politicians will think the same way about poverty: ending it is not about financing the poor; it's about giving everyone equal chances to develop in the future and stand for themselves. And since we want honest politicians and a society with ethic principles, we will work to have that and build a new society.

We are more aware than ever about what happens around us, and we like to share it and work together to fix it. We have technology at the palm of our hands. We are open-minded, we want to be innovative, we want to take part and change the world.

All we need to do to reach the SDGs, to live in a sustainable and developed region and to safeguard the environment is to **empower Millennials**.

CONCLUSIONS

- In order to achieve development, we first need to know where we stand, and the first challenge we face is the lack of updated data about some countries, and the lack of data of LAC as a whole; to track the SDGs success.
- Basic education is the base of society and should be a priority on every government's agenda. If we want an industrialised region, education should also meet these requirements.
- Governments are the final responsible of the success of international agreements, and should work with the private sector to reach mutual benefits. In order to do that, transparency must prevail in them.
- Innovation is not only about creating, but about being open to change. We need to change our traditional mindset to develop on our fully potential. Research and innovation hold a direct relation with sustainable development.
- Geography in the LAC region is both a challenge, when it comes to infrastructure, and a benefit, for solar or wind energy. Infrastructure, recycling, and renewable energy need investment from the private sector. These will not only benefit them, but also the countries' development and the environment.
- Equal development within a country could stop migration and its problems, like transportation, which doesn't allow an effective communication or productivity.
- Millennials are the new generation and the hope for a brighter future, empowering them now will guarantee us a 2030 with the SGDs successfully reached.

RECOMMENDATIONS

- Reach an agreement, at least with other UN Organizations, to publish the result of their studies by categorizing countries the same way; since not all LAC is “developing countries” and not only Europe is “developed”.
- LAC governments should focus on education, and take advantage of the Aid Money it receives from more developed countries. Technical careers should be promoted in order to meet the market’s more industrialised demand.
- Strong measures should be taken against corruption and abuse of power in the government, and transparency must be encouraged.
- UNIDO could extend their aid in Artisan Gold Mining, providing also legal advice and promoting financial agreements between the companies and the governments involved.
- The UN, Governments and Private Sector should join forces to increase research and innovation in the LAC region.
- Governments and the UN should promote private investment in infrastructure and environmental solutions, by proving its win/win nature. These should be equally developed all over the countries and not only the big cities.
- Some LAC countries have excellent solutions to the problems faced in the region. These should be replicated in chosen cities, as a pilot test, and then taken to other cities in case of success.
- Millennials should be empowered to take action about the environment and the development of the region and the world, since they are the future of society.

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